

## Institutions and the Restructuring Global Networks:

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This book explores the changing role of the state in three respects—causes of the changes, changing instruments of state intervention in the economy, and consequences of these changes for both markets and politics. In an era of economic globalization a key capacity of the state is the ability to restructure global markets to facilitate economic growth. This paper examines the transformation of two key infrastructures of the modern world economy, global telecommunications and aviation, where the hand of governments has gripped the markets firmly. These two industries' dynamics reflect the effort to restructure the global services economy that now accounts for the majority of the world's economic output. By examining two service industries we gain insight into how state capacity shapes the reform of global markets (after allowing for the differences among the markets themselves).<sup>1</sup>

Our argument is complicated in its details because the industries and their regulations are byzantine. But our bottom line is simple. Although both industries went through restructuring in a period favorable to increased competition, they shed their traditions of national monopoly and global cartels in two very different ways. We observe two fundamental differences in outcomes in the two markets. First, the telecoms market was imperfectly but more thoroughly opened to competition globally than was aviation. Second, governments embedded the telecom industry squarely in the WTO's multilateral trade regime, while aviation remained carved out as a largely separate domain defined by rigid bilateral reciprocity pacts. The form of market restructuring—the degree of global competition and the degree of embedding in multilateral trade institutions—is our dependent variable.<sup>2</sup>

The way that governments change markets is through altering marketplace property rights for participants. (Property rights refer to the ways in which governments assign the rights and responsibilities for controlling and using productive assets with a given market, including who may own property and what ancillary rights are associated with property rights.) Key property rights in these cases included the right to enter the market (including the right to own and control subsidiaries in a foreign market), freedom of pricing and the right to interconnect with other domestic networks.

Our explanation focuses on how the major market powers reacted to technological change. We use a combination of market and institutional factors to explain the outcomes while

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<sup>1</sup> Unlike many analyses of state capacity our emphasis is not on the ability of states to manage national economic adjustment or create competitive advantages, we focus on the impact of institutional capacity at the national and global levels on the restructuring of international markets

<sup>2</sup> Only recently have changes in the locus of control over aviation markets within the EU opened the potential for more dramatic re-structuring of the market. This is particularly true in EU, where the rise of low-cost carriers serving second-tier (or outlying) airports have re-shaped the market absent fundamental changes in the regulatory regime. Although important, these changes have not fundamentally altered the structure of international markets, and most observers expect real change to evolve slowly and be largely shaped by the interests of incumbents airlines on individual bilateral routes.

we focus on the US and the EU because they drove multilateral negotiations in the period through 1998.<sup>3</sup>

First, particular aspects of market structure were politically salient. These features broke down into those common to both industries and those that differed. Both aviation and telecommunications are network industries with striking economic similarities. The most politically important was that they were both especially prone to problems of commitment and information. These vulnerabilities revolve around the cost of, for example, a country opening its market for competition but then failing to have rules capable of allowing a new entrant to interconnect with the local network of the dominant incumbent carrier. (Section 2.0 examines these issues in detail.) There were also there were at least four politically relevant differences between the two markets—the salience of global network entry rights, the salience of reform to key consumers involved in the trade process, the risks to the key incumbents under the status quo, and the ability of new entrants to rapidly expand supply in foreign markets and therefore pose significant risks to incumbents.<sup>4</sup>

Second, and of prime interest to this volume's enterprise, the institutional competence of national governments and international institutions mattered for changing the markets. National (or EU) institutional competence structured global change in two important ways. The U.S. and EU market authorities differed in their competence to negotiate new market entry to foreign firms. And they differed in their ability to make commitments on implementing their market entry agreements reliably.

Believable commitments are especially hard to craft because changes in marketplace rules are inherently political. This is because property rights have both efficiency and distributional implications.<sup>5</sup> The redesign of property rights may push out the Pareto frontier for global welfare by improving market efficiency (although seldom optimally). But a reorganization of rights also distributes gains differentially *within* countries and *across* countries. In an international context, national politicians use international institutions to assign property rights in global markets, thereby increasing both the efficiency of these markets and the amount of wealth available for domestic redistribution.<sup>6</sup> In this context the capacity of global institutions also

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<sup>3</sup> 1998 constituted a political breakpoint. By the end of 1998 the last of the WTO negotiations on services in the Uruguay Round had been completed (the telecom agreement in 1997) and implemented. It also marked the end of the Clinton administration, and the last complete policy period before the shift of U.S. foreign policy priorities following the September 11<sup>th</sup> attacks.

<sup>4</sup> In telecom, the need to build out networks (in particular local networks that served major MNC customers) meant new entry would likely take time to alter local market competition and therefore incumbent positioning. In aviation, in contrast, access to airport landing slots and gate capacity was all that was required for new entrants to dramatically alter competitive dynamics. Incumbent airlines thus faced more significant near-term adjustment challenges to new competition rules than did their telecom counterparts.

<sup>5</sup> While the literature in international relations (e.g., Keohane, 1984) has highlighted the efficiency gains associated with property rights in markets, the economics literature (e.g., Stigler and Peltzman) has highlighted the distributional aspects of property rights.

<sup>6</sup> An increase in domestic re-distribution can thus be achieved from two sources: (1) international efficiency gains and (2) inter-state distributional gains (from one state to another). Even in the first, however, distributional concerns loom large as states must allocate gains across and within states—hence some state may capture a disproportionate share of the total efficiency gains, and the distribution of gains across actors within a state is also at play. Richards 1999, Oatley 1998.

mattered for restructuring because each had decision and constitutional rules that influenced the shape of potential international agreements on reform.

Our argument unfolds as follows. We briefly set the scene by looking at the transformation of the global services market. We then look at the literature on institutions and contracting to overview the common challenges of liberalizing telecommunications and aviation on a global basis. Then we provide cases histories of the two industries. We conclude by examining the explanatory factors for their divergent paths.

## 1.0 Transforming the Global Services Economy

Aviation and telecommunications are key examples of the efforts to restructure national and global service industry markets since the late 1970s. Understanding the logic of service markets is crucial for understanding state economic policies because services now account for ~70% of economic activity in the developed world and as much as 50% in the developing economies.<sup>7</sup> The sheer size of service markets, coupled with their importance as both producers and leading edge users of advanced technology, make them into an important influence on national economic performance.

Service markets were traditionally linked closely to the state. Governments often provided them directly (e.g., post, telephones, transport, medical) or they owned the main commercial provider (banking). If there was a private market, governments stringently controlled items like market entry, pricing, or quality of service. Pricing schemes often entailed various distributional goals—like having urban consumers cross-subsidize rural areas. Quality of service approvals had consumer protection as one reason, but the effort could often be more correctly attributed to efforts to shape market competitive outcomes for government purposes.

National regulations largely designed to achieve domestic political objectives were buttressed internationally by similarly restrictive arrangements governing entry, competitive behavior, and most aspects of market dynamics. These global rules, unsurprisingly, were traditionally very restrictive on market entry, pricing, and competitive strategy. In many cases they largely were cartel arrangements with government approvals.

The introduction of more services competition at the domestic level raised the question of how to extend this model globally. And, in turn, reorganizing global service markets—whether financial (ranging from banking through insurance and stock trading), communications, aviation, shipping or architecture and construction (to name a few) required a close examination of global market rules for the industries. The largest systematic response and examination of the potential for the global reorganization of service markets in the 1980s and 1990s was the WTO (originally GATT) exercise to create authority over, and rules for, trade in services. The creation of a General Agreement on Trade in Services (GATS) in the Uruguay Round was considered one of its largest accomplishments. It required, literally, a complete rethinking of what countries meant by international trade and its rules. In the service industries the importance of traditional trade barriers (e.g., at the border tariffs and quotas) is much less because the nature of the products (services, not goods), the methods of government

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<sup>7</sup> Services include: aviation, telecommunication, banking, insurance, health care, transportation, accounting, etc.

intervention in the market, and the nature of the market entry problems are different than in the markets for goods.

In goods, the keys were to reduce barriers at the border (tariffs and quotas) for imported goods and then to make sure that there was no discrimination against these goods as they moved to the ultimate consumer in the country (thus, the WTO's national treatment rule says that foreign goods cannot be treated differently from domestic ones once they enter the market). In services (Drake and Nicolaidis; Stern and Deardorff) governments did a long fact-finding exercise across service markets to find the common market entry and competition issues. They concluded that the delivery of services in another market sometimes took place in a manner akin to a traditional export of goods (an architect in New York consults over the phone and internet with an engineering firm in Paris). But, more typically, significant market entry requires the presence of local operations in the foreign market to at least help to deliver the main service product, but more frequently to produce the service as part of a global service network. (A Bank of America ATM in London requires both a local operation and is part of a global banking network.) This implies that a right to direct foreign investment is critical for entry into foreign services markets in most cases. In addition, the tradition of strong government control over services in most markets meant that there were extensive licensing systems to authorize provision of services and govern the conduct of service providers, including the freedom to price and to roll out new service products as the market changed. Any firm attempting to operate outside of their home market knew that the ability to win a license and be treated in a non-discriminatory manner was, like love in the lyrics of Porgy and Bess, "a sometimes thing." And, just as crucially, local regulatory systems were often designed to restrict the right to compete against the dominant incumbents (often government owned) even after market entry was granted.

The stocktaking of service issues led the Uruguay Round negotiators to undertake the creation of an entire new framework for making commitments on liberalizing trade (and investment) in services. There were three parts to the GATS undertaking. First, the negotiators invented a new format for scheduling market access commitments on services. Instead of tariffs, countries could commit on items ranging from entry through creation of a "commercial presence" (that included presence through foreign investment up to 100 percent ownership) to, for example, entry through the movement of peoples (e.g., a commitment to allow foreign professionals to serve the local legal market). Second, it spelled out some GATS principles for competition in services that purported to re-specify existing GATT obligations, such as national treatment, in the context of services. Third, countries could make commitments on individual service markets (or take exceptions to making any commitments). In regard to the third item, commitments were weaker than GATS proponents wished for most service markets. But, as we shall see, the progress on telecoms was much greater.

The shift to services has also increased the importance of property rights for how international markets are organized. Property rights governing foreign investment, national treatment, and competition rights (e.g., who gets to participate under what rules in a given market) now are the key levers for state intervention in the services economy and feature prominently in the current Doha Round of WTO talks. And, as in all elements of trade and

economic policy, governments seek to use property rights to stimulate growth, create competitive advantages, and redistribute economic rents among political stakeholders.<sup>8</sup>

In both the telecom and aviation markets, technological innovation in the 1970s created opportunities for dramatic economic efficiency gains by promoting competition, including more competition across international borders. The two market leaders globally, the U.S. and the EU, viewed the liberalization of service markets as important for both narrow interest and structural reform reasons. Liberalization would help specific suppliers of services and equipment that were considered important parts of their economies. Even today, for example, Boeing is one of the largest U.S. manufacturing exporters and has long been considered a national technological asset. The growth of “no frills” airlines in Europe has fuelled demand for its 737 jets. And, more broadly, they would lower the costs and increase the productivity and innovation potential of “knowledge economies.” But the question was how to reorganize the market—how much competition under what organizing principles over what time frame with what ultimate end-state goal?

The next section begins our explanation of the end-states by focusing on the politics of reforming property rights and the key contracting challenges facing would-be reformers in global telecom and aviation markets. We tie these issues to the institutional competence of the key market powers.

## **2.0 Markets, Institutions, Property Rights, and the Literature on Contracting**

There is a “demand” and “supply” side to the granting of property rights, such as the right to entry licenses in foreign markets (including rights to foreign direct investment in the market) and freedom of pricing. On the demand side, constituents “bid” for property rights favorable to their interests, and some are more motivated or have more resources to bid for the rights (e.g., more workers who vote). On the supply side, politicians distribute or modify property rights to ensure their electoral success. Thus, politicians become entrepreneurs for market reform on some occasions because changing property rights can advance their political prospects.

As a practical matter in these two markets, the key players on the demand side were especially the incumbent carriers, the large business users and household users, and the suppliers of equipment to carriers and users. As we shall see, incumbent carriers in the two industries differed in their estimation of the value of the status quo in international markets because the importance of pricing arbitrage and traffic re-routing was greater in the telecom market, and because major aviation carriers believed they could effectively stem the emergence of competition.<sup>9</sup> Within each global market, carriers also differed in their estimation of the value

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<sup>8</sup> The manipulation of property rights is one of the oldest and most powerful tools for state intervention into the economy. While reforms in property rights in recent years predominantly attempted to create more competitive markets, tinkering with property rights are as much an instrument of strategic economic policy as more traditional forms of intervention, such as government subsidies. (Indeed, assigning property rights to private owners as an incentive for building networks is a classic scheme for building networks.)

<sup>9</sup> This reflects the differential ability in the two markets for competition to emerge “outside the rules” of the old system. In telecom most major carriers believed that cheating (re-routing, etc.) would substantially alter competitive dynamics in the market and therefore discounted the future rents from the traditional system. In

of rapid expansion globally. In general, the U.S. carriers put a higher premium on broad global expansion, at least in part due to the earlier move to US domestic competition and the emergence of new forms of competition (i.e., hub-and-spoke networks in aviation services). The larger users also differed between the two global industries. In general, large users were more forceful advocates of market restructuring in telecoms, at least in part due to the larger costs associated with global telecommunications for large multinational corporations.<sup>10</sup> Household users also mattered but were not active proponents for change. And, finally, the equipment supplier industries varied across the industries, due in large part to the special character of the U.S. telecoms industry and the nascent position of Airbus in commercial aircraft. The U.S. electronics industry had long been less concentrated than its European and Japanese counter-parts. This produced a significant supplier base in the US that favored market innovations in services and their efforts produced competition policies that implicitly favored the computer industry over the telephone carriers on data services. In aviation, Airbus lacked a credible alternative offering to Boeing long-haul aircraft, so Boeing favored opening international long haul markets

We normally think of politicians acting on the supply side by responding to specific industry or consumer demands through the modification of property rights. (For example, telecoms was politically attractive because all households consumed telecom services and thus stood to benefit from reform.) But political leadership also may frame narrow issues in bigger political and economic terms, as was the case of Margaret Thatcher making regulatory reform into a leading application for popularizing her political crusade for economic change. In the 1990s, telecoms achieved much higher political status because of its political appeal as an instrument and symbol of economic revitalization. Telecoms emerged as a central utility for high tech more broadly and for the re-structuring of entire industries. Most observers realized that creating a regulatory framework to drive investment and adoption of robust telecom network infrastructure was central to competition and efficiency in a wide set of services industries, such as financial services firms. This raised the profile of telecom in the broader policy-making landscape because the efficiency gains from any market re-structuring would boost a broad range of the economy. Aviation, on the other hand, had limited impact on the competitiveness and organization of other industries (with the exception of air cargo, which we do not address in this paper).

The supply side for policy also includes the use of financial mechanisms, such as subsidies or government ownership, to influence the form and value of property rights in the marketplace. In these two markets governments concluded that continued aid to aviation was more viable than in telecoms industry because it was far cheaper.

Matching supply and demand is imperfect because the creation and change of property rights is not completely malleable. The institutions that assign property rights have an impact on outcomes because they vary in their institutional jurisdiction and powers, and they use decision

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aviation, in contrast, most carriers believed they could stem entry (by controlling the limited set of important airport slots at key markets) and that cheating would be limited. This is especially true in international aviation. However, the emergence of the Southwest model (low cost travel between "second-tier" airports) in the both the US domestic market and intra-EU market has substantially altered the competitive landscape.<sup>10</sup> Telecommunications costs for large MNCs were as high as ~5-6% of overall costs for some heavy users. See Cowhey 1993.

rules and procedures that can change the equilibrium outcome in unexpected ways. That is, existing regulations and rules create their own dynamics and shape change because they include rules guiding rule change as well other dimensions of property rights (e.g., the definition of a market, definition of competitors in a given market, voting rights within institutions). These are attributes of the organization of the state (or, on trade policy in Europe, the policy process of the European Union) and global institutions, such as the WTO.

Pre-existing international institutions in telecommunications and aviation substantially influenced the flexibility of solutions sets available to governments. The traditional institutions for these markets—the International Telecommunications Union (ITU) in telecom and the bilateral air treaty agreements and International Air Transport Association (IATA) in aviation—had arrangements at tension with WTO liberalization and the rearrangement of property rights. In aviation, expanding beyond bilateral agreements was necessary to fundamentally re-structure the market, but major beneficiaries of the bilaterals were enfranchised in the political framework of the agreements themselves. Shifting to a multilateral rule system would endanger the benefits won by certain carriers under the bilateral treaties. In telecom, for example, any international deal had to begin with the basic framework of rights outlined by the ITU. These proved to be at odds with the realities of markets in any politically feasible version of a WTO liberalization of the market. At the same time, many of the institutional features of the WTO complicated the possibility of changing the markets' property rights.

In short, international institutions generally limit flexibility. However, given the need for extensive state involvement for meaningful reform—particular in networked service industries like telecom and aviation services—international institutions are usually required for the conclusion and successful implementation of any deal.

## 2.1 Property Rights, Institutions and Problems of Commitment and Information

The restructuring of aviation and telecom markets globally required extensive changes in property rights. For example, an airline only had property rights to a foreign route in conjunction with a bilateral treaty right to that route by its parent government. If a German airline bought a Dutch airline, the Dutch airline might lose its operating rights to a country where the Netherlands, but not Germany, had bilateral air agreements. Similarly, a normal private market has ownership rights including the right to price freely (subject to constraints such as antitrust rules) in response to market conditions. Classically, these two markets had property rights with limited pricing freedom.

A significant overhaul of property rights was, on the face of it, a major challenge. But it was even more daunting because reformulated property rights were essential to resolving perennial issues of contracting in international markets. And, as the discussion in this section will show, establishing strong new property rights almost invariably led to questions of the institutional competence of the U.S. and EU market authorities.<sup>11</sup>

The major contracting challenges facing actors in both the domestic and international contexts revolve around transaction costs involving informational and commitment problems.

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<sup>11</sup> There is a large literature on the role international institutions in monitoring actor behavior and sanctioning cheaters and thereby facilitating international economic exchange. For the classic statement, see Keohane 1984.

Informational problems are important because, as Williamson notes, all contracts must contain safeguards designed to ensure mutual compliance with contractual obligations, including sanctions for failure to perform and specialized dispute resolution mechanisms. But sanctions for failure to perform require that behavior is observable.<sup>12</sup> A primary function of institutions is to increase information about the behavior of marketplace participants, reduce the costs of this information for other actors, increase the likelihood of contract enforcement and thereby render marketplace exchange possible.<sup>13</sup>

The networked structure of telecommunications and aviation services render generic commitment and informational problems particularly problematic. The economics of networks mean that network is more valuable to its users if it increases the range of users it covers. Network economics mean that firms must access a broad range of geographic markets in order to effectively compete. Gaining or maintaining preferential access to key markets may provide substantial economic and competitive advantages. Incumbents may have significant incentives to deny market access to potential competitors, while potential entrants have equally large incentives to secure market access on a non-discriminatory basis. This is particularly true in telecommunications and aviation services, where the traditional arrangements created incumbent monopolists with strong local positions.<sup>14</sup>

The politicization of these markets raised additional informational and commitment issues. Governments historically restricted access to their domestic service markets and created state-owned enterprises to serve domestic markets. State-owned, or recently privatized, carriers are thus incumbents in most major markets (the U.S. is the exception, although even there the market was dominated by entrenched privately owned incumbents). The large labor force accounted for by these incumbents--coupled with the legacy of government ownership and various cross-subsidies mandated by governments and implemented by former monopolists--meant that governments had large political incentives to intervene to the advantage of domestic incumbents as more extensive competition was introduced in the 1980s and 1990s. Thus, not only did any new arrangement have to satisfy these incumbents and their political representatives, but any set of new global liberalization arrangements had to address the potential for domestic political pressure for subsequent government intervention to the advantage of incumbents. Any deal thus had to have credible commitments and enforcements mechanisms to resolve the inevitable efforts to revisit the arrangements—a particularly challenging situation in an international context, when the credibility of market access commitments depended on persuading other countries that a government could manage this inevitable political challenge.

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<sup>12</sup> Institutional solutions to incentive incompatibilities thus require that behavior is observable and verifiable (and hence contracts are enforceable), both of which can be undermined if information is lacking. Williamson 1985, p. 34.

<sup>13</sup> The inability of governments to make credible commitments thus renders economic exchange problematic, and ultimately leads to inefficient marketplace development (or alternative contractual arrangements, with government ownership of domestic utilities the most common solution). Levy and Spiller, 1996.

<sup>14</sup> Economists devote enormous effort to modeling the precise mix of incentives that will lead incumbents to follow the temptation to deny access to their networks (e.g., Noam, Tirole et al). This is the correct efficiency question for competition policy. As a political matter, companies routinely assume that the potential for discriminatory conduct exists and, accordingly, treat this as a contracting risk requiring caution on their part.

Government negotiators, of course, do not typically spend endless hours debating commitment problems in the abstract. In practical terms, they responded to commitment issues primarily by going to great lengths to specify the new property rights that were specific and essential to market entry in foreign markets. During the 1980s and 1990s, the key period for our case, market participants in the two industries defined market access in strikingly similar terms—initial market entry rights through flexible vehicles for entry, ranging from joint ventures with local partners through purchase of local incumbents or classic foreign investment to create your own networks in the market. Equally significant was the emphasis on extended market entry rights (EMERs) through access to “essential facilities” and to “complementary markets.”

In regards to initial market entry there were two issues about the competence of key market centers that influenced global negotiations. On the one hand, converting global market governance into multilateral trade arrangements meant that the competence of trade officials over these service markets had to be established. This was no small feat, and it fundamentally altered the pathways of reform. On the other hand, in the services industry the acceptance of entry through foreign investment and control of national service companies was essential to market opening. In most countries there were prohibitions on foreign control of telecommunications and aviation carriers. The credibility of promises to change these rules influenced the market reform calculations of every player in the private and public arena. (The timing of the establishment of this competence also mattered.) Importantly, the liberalization of foreign direct investment was brand new ground for the WTO.

The emphasis on EMERs deserves special comment. Virtually all major players wanted rights to access to “essential network facilities” in the national market for new entrants. In a networked industry there are a few existing capabilities that are indispensable for providing a service that no new entrant can replicate in a timely and cost effective manner. The incumbent(s) controlling these capabilities can foreclose entry into the market simply by denying access to these facilities. (In the language of competition policy, these incumbents have “market power” by virtue of controlling essential facilities.) Government must create property rights to access to these facilities for new entrants that are cost effective and timely. Although lawyers and industrial organization economists have created a significant global service market in jousting over the definition of essential facilities in a specific context, most agreed on key examples of the most important, and hardest to provide, essential facilities.

In telecommunications markets the key essential facility for the traditional wired network was the “last mile network.” This was the connection from the main telecom network to the location of individual customers. The cost, logistical difficulty, and building permit problems involved in duplicating the transmission network to millions of individual customers made this facility hard to replicate except when serving large office clusters of the biggest corporate customers. In aviation the most problematic essential facilities had to do with ground service capabilities that were indispensable to operation in another country.<sup>15</sup> Most attention focused on access to take-off and landing slots and city-center airports, in large part because local

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<sup>15</sup>. Obviously, new entrants in aviation needed access to such safety resources as navigation and approach landing systems. But these facilities were collective goods that were not traditionally supplied by any one carrier, even the national airline. So, they were not contentious. A similar point applied to telecom issues like access to the national numbering plan for area codes. In addition, tradition global institutions (e.g., the ITU) remained relevant to global harmonization in these areas.

incumbents owned and controlled most of the gates at national airports, particularly at key times for take-off and landing for business travelers. A near second, surprisingly, was ground handling services, such as baggage handling (and sometimes catering), because many countries let the incumbent national airline control these capabilities across all carriers. Control and access to these facilities inevitably produced complaints of inadequate and unequal treatment from foreign carriers using services from national (generally state-owned) carriers. Because these services required scarce facilities at airports and were often controlled by the local airport authority in conjunction with the central state government, they could not be duplicated by rivals easily nor seamlessly

Any network is inherently more efficient, and often only viable, if it can exchange traffic with other networks freely and competitively. Growing and supplying all of your own customers requires a network to be totally vertically integrated in supplying service markets. Few companies are. Thus, market access requires property rights to interconnect with “complementary markets.” Unlike essential facilities, which are easily associated with a few significant functional tasks, access to complementary markets is a classic problem in competition policy. The problem is defined in a very specific market context. Luckily, a pair of examples can easily illustrate the challenge. In telecoms, building a large fiber backbone network for data transmission is only feasible if the network can compete for traffic from many other networks that may originate traffic but not want to transport it over long distances. Level Three, a global backbone network, transports the internet traffic created by thousands of local Internet Service Providers around the world. In telecommunications this is known, depending on the context, as the “basic transport” or “resale” market. In aviation, the particularly striking example is the right of a foreign carrier operating on an international route to pick up traffic in a foreign country that originated on a domestic carrier. For example, does regulation prevent American Airlines from freely selling tickets for service from Munich to New York if the customer began service in Berlin on Lufthansa?

In addition to EMERs, a second set of problems stem from information and enforcement challenges. Informational problems are, in principle, clear. Whether it is telecom or aviation, a foreign competitor wants transparent information about current regulations and enforcement of the rules, and they want transparency in any processes for changing them. This also requires timely disclosure about market practices of incumbents with significant market power so that other competitors can monitor the performance of the regulator and the incumbent. This also shows the importance of institutional competence. For example, a key requirement for transparency is the separation of the regulator from the operator providing a service; To understand why consider the case of aviation. This was a major issue under IATA regulations on international fares, when the airlines themselves (via IATA) were charged with investigating and punishing cheaters on agreed-upon fares. Not surprisingly, cheating was rampant (largely via “bucket shops” that sold vacation tickets directly to consumers) but was rarely discovered or punished. In telecom, likewise, many countries used to have the government monopoly operator also set rules for its conduct with the unsurprising result that conduct was usually not found to be anti-competitive.

Enforcement of market rights has two dimensions, both tied to institutional capacity. One is much like information—does the regulator act in a timely, non-discriminatory, and transparent manner to enforce its own rules? More subtly, governments judge the ability of

each major player to manage the inevitable politics of transition from one market regime to another. Can they, for example, manage side payments among market participants without impinging on new international commitments? This is a matter of institutional competence of the government authorities. It proved to be a major challenge for the U.S. in telecoms at the WTO. The second dimension in institutional competence goes beyond national authorities to even local authorities in the case of services because services are subject to mixed levels of jurisdiction. There are issues of legal authority and of political will. In the U.S., for example, the regulation of telecommunications markets is shared between national and state authorities. There are also issues of political will when dealing with contentious issues at the very local level. As we shall see, commitments to expand airport facilities tested even the bravest politician in most countries. This seeming neighborhood matter had huge implications for the competence of governments to make commitments for changing aviation markets, as the next section explains.

### **3.0 Reforming the Aviation and Telecoms Markets**

The following sections review the restructuring of the two global service industries. As we shall show, they began with similar starting positions—national monopolies and bilateral cartel agreements operating under a global framework—but they evolved in very different ways. It is important to remember that bilateral liberalization was the default option in both markets. In contrast to telecom, aviation markets ended up only nominally within the WTO framework and were liberalized piecemeal through bilateral reciprocity deals involving market access. This was also the dominant mode of liberalizing telecom service markets until 1997 but then telecoms diverged sharply.

We now turn to the details of the cases.

#### **3.1 International aviation services markets**

Advances in aircraft technology during World War II opened the economic bases for the emergence of international aviation markets. But the growth and development of these markets was problematic given strong state concerns regarding airspace sovereignty and the distributional implications of different sets of marketplace rules. Explicit state agreement on marketplace rules was thus required for market development. U.S. efforts to create open international aviation markets began in 1943 and cumulated in the Chicago Convention in November 1944, where the representatives of more than 50 states gathered to discuss the structure of postwar aviation markets. Although the Chicago Convention failed to yield a satisfactory outcome to major stakeholders, in the aftermath of the Conference a complex web of bilateral and multilateral arrangements were struck that defined the rules for state and firm participation in international aviation services markets.

The central "institution" of postwar aviation markets were the bilateral agreements modeled on the 1946 U.S.-U.K. Bermuda bilateral.<sup>16</sup> The bilaterals dictated the regulations governing entry, capacity, and some aspects of ancillary services. Negotiated on the principle of strict reciprocity (i.e. each state granted permission to foreign airlines to fly routes of a given

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<sup>16</sup> The U.S.-U.K. bilateral formed the "model" bilateral upon which all other bilateral, state-to-state agreements were built. However, it is important to note that there were important differences between individual bilateral agreements.

economic value in exchange for permission to fly routes of equal economic value), bilaterals set strict limits on entry and capacity and included very detailed rules on the nature of services, including the size of planes to be flown, the total number of passengers allowed, and even the times of arrival. Many bilaterals pre-determined the capacity of each carrier in the marketplace (pre-determination bilaterals), and in practice even bilaterals with less regimented capacity clauses strictly limited the ability of any one carrier to offer much more capacity than the foreign carrier. Almost all bilaterals delegated pricing to IATA,<sup>17</sup> although rates were still subject to the approval of both states (double approval pricing). All other aspects of the marketplace, including the specific routes to be flown and airports to be used, were dictated by the bilaterals. The bilaterals also usually included private side-agreements between airlines, which generally provided for further capacity restrictions and delineated the terms of revenue sharing (pooling).<sup>18</sup> Many bilaterals also required that foreign carriers utilize the maintenance, service and sales staff of the domestic carrier. Finally, almost all bilaterals provided for only a single national carrier to enter any given international route (single-designation).

The bilaterals were buttressed by IATA fare conferences. IATA rules dictated that traffic conferences concerned themselves with "all international air traffic matters involving passengers, cargo and mail....particularly the following:.....(b) fares, rates and charges for passengers and cargo."<sup>19</sup> For the purposes of price-setting, strict unanimity voting rules meant any single airline could veto fares anywhere in the world. IATA also set rules to all aspects of aviation services, notably food service and in-flight entertainment, and thus ensured that airlines could not accrue advantages by providing additional services. In sum, IATA dictated that airlines provided standardized services at identical prices.

Until the late 1960s, the Bermuda regime governed the dramatic and uneventful growth in the international aviation marketplace. By the late 1960s, however, improvements in jet technology and changes in the structure of demand for international aviation services raised the political costs of the Bermuda cartel and set the stage for its demise. As noted earlier, the high prices imposed by the Bermuda regime were not politically sensitive in the immediate postwar period because of the limited size of the market and because most international passengers were government and business travelers. The introduction of jet technology, however, substantially reduced airline costs and led to consistent declines in the real cost of international air travel vis-à-vis other consumer goods.<sup>20</sup> Real costs per kilometer-ton in 1990, for example, were one-

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<sup>17</sup> It is worth noting that IATA did not "capture" fare-setting authority. Rather, the Bermuda bilateral contained explicit language granting IATA authority to set fares. In the U.S., IATA authority was dependent upon a grant of anti-trust immunity from the Justice Department, which was renewed annually until 1955, when anti-trust was granted indefinitely. For a discussion of airline motivations regarding IATA, see Sochor 1991, 13.

<sup>18</sup> The U.S. was the exception here as anti-trust laws precluded U.S. carriers from concluding side-agreements with their foreign counterparts. The CAB did, however, occasionally grant permission for U.S. carriers to collude with foreign airlines.

<sup>19</sup> On IATA traffic conferences, see Lowenfeld 1981, 455-476. The discussion of IATA rules draws heavily from this source unless otherwise noted.

<sup>20</sup> IATA 1974, 95---98, 231.

third of what they were in 1960.<sup>21</sup> The decline in costs was especially rapid with the introduction of jumbo jets in the early 1970s.<sup>22</sup> Declining real costs, in turn, led domestic regulatory agencies to pass some of the savings along to consumers of aviation services,<sup>23</sup> with declining real prices, in turn, leading to a dramatic increase in the number of international vacation travelers. The fact that jets also dramatically reduced travel time only increased the number of international leisure travelers.<sup>24</sup>

Rising incomes, faster travel times, and cheaper operating costs thus combined to produce an explosion in the number of international leisure travelers and raised the possibility that a more efficient international regulatory system might yield better domestic political results.<sup>25</sup> At the beginning of the jet age in 1960, some 60-70 percent of international air travel was accounted for by business; by the late 1970s, this figure had dropped to around 50 percent.<sup>26</sup> Combined with overall traffic growing of about 15 percent per annum (throughout the 1960s and 1970s), the changing composition of total demand translated into growing numbers of voters who stood to benefit (through lower fares) from more competitive international aviation markets. Most importantly, given that the price elasticity of demand for leisure travel is significantly higher than for business travel, demands for lower international fares increased as price-conscious consumers became a significant percentage of international passengers.<sup>27</sup> In the U.S., political pressure from consumers for lower prices was especially acute on routes to and from Europe, since large numbers of U.S. ethnic minorities wanted to travel to visit their homelands.

Improved jet technology and the changed structure of demand for international aviation services also altered the incentives of incumbent airlines and potential new entrants. New jet technology was important because jets dramatically expanded the potential number of seats available and because they enabled new route patterns. This meant incumbents had to grow the

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<sup>21</sup>Zacher 1996, 82.

<sup>22</sup>Maillebiau and Hansen 1995.

<sup>23</sup>In 1951, for example, the average cost of a New York---London round-trip ticket was \$611, or 39.6 percent of U.S. per capita income; by 1965 the fare had dropped to \$375, or 17 percent of per capita income. *Aviation Week and Space Technology*, 23 January 1967, 49---50.

<sup>24</sup>On U.S.-Japan routes, for example, the introduction of commercial jets reduced travel time from 18 to 8 hours. See Hansen and Kanafani 1990.

<sup>25</sup>The number of passengers on scheduled international airline flights increased from 14 million in 1956 to 23 million in 1960, and international traffic doubled between 1959 and 1965. By 1970, there were 74 million international passengers. IATA various years. The data are for IATA members only and thus do not include charter carriers. Data available from the author.

<sup>26</sup>In the immediate postwar years, business accounted for about 80 percent of travel, whereas leisure constituted some 20 percent. Today, those figures are reversed. See Tallon 1979, 1030---32; and Hanlon 1996, 18.

<sup>27</sup>For a detailed discussion of demand elasticities for international aviation services, see Oum, Waters, and Yong 1992.

overall market to fill the new planes while new entrants clamored to offer service on the newly possible routes. The introduction of the Boeing 747 in 1970, which effectively doubled the number of seats available on dense international routes, was particularly problematic.<sup>28</sup> Many airlines hoped that lower fares would stimulate enough demand to fill the empty seats, and by the late 1960s cheating on IATA fares was rampant.<sup>29</sup> Jet technology also mattered because they enabled new route patterns and thereby encouraged new entry from formerly domestic airlines. Indeed, the expanded range of jumbo jets enabled smaller domestic airlines, notably U.S. regional airlines, to provide service in international markets for the first time.<sup>30</sup>

Although would-be entrants were more important in the U.S. than elsewhere due to the continental scope of the economy and the absence of a single, government-owned national flag carrier, the maturation of domestic aviation markets in most OECD states meant that small domestic carriers elsewhere were also poised to enter international markets. This was especially true as the new regulations governing charter operations increasingly blurred the distinction between scheduled and charter carriers--resulting in many international carriers that began as charter operations pressing to enter international scheduled markets.<sup>31</sup>

By the mid-1970s, in sum, significant changes in market dynamics had dramatically increased the political costs of the Bermuda cartel for politicians in most OECD states. Equally important, the inefficiencies associated with the Bermuda cartel were so large by the 1970s that reform promised to generate substantial market efficiencies that could be made available for domestic redistribution. Prodded by U.S. efforts, the past twenty years have witnessed a broad move toward more liberal bilateral agreements and a steady erosion of the role of IATA in setting international fares. Despite the overall trend toward more competitive international markets, liberalization has proved neither inevitable nor uniform across markets.

. In our view, there are a number of distinct characteristics of aviation markets driving this pattern of reform. The first determinant of the pattern of reform was that consumer benefits were enough to get some reform. But large users did not make this issue into a prime priority.

A second key issue was how incumbent carriers evaluated the value of the status quo. Put simply, the status quo to entrenched carriers was somewhat higher in aviation than in telecoms because most aviation carriers believed it was possible to maintain the status quo and at the same time faced limited cheating or arbitrage that would cause them to believe the market could evolve to major competition absent government reform. (This was, in contrast to

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<sup>28</sup>The three jets that flew international routes before the 747 carried 140--180 passengers, depending on seating configurations. The first 747s carried 350--420.

<sup>29</sup>Although Pan Am did not take delivery of the first 747 until 1969, the range and cost structure of the 747 were known as early as 1966. In the 1968 trans-Pacific proceeding, for example, all the major U.S. airlines applied for permission to enter U.S.--Asia markets and planned to serve these markets with 747s. Bill Kutzke, interview with author, Washington, D.C., 24 and 30 October 1996.

<sup>30</sup>Remember that the limited range of aircraft in the immediate postwar period meant the market was organized around coastal cities. As the range of jets increased, it offered the potential for international travel from interior domestic cities.

<sup>31</sup>See *Aviation Week and Space Technology*, 8 May 1967, 33--47, and 25 December 1967, 26--27.

telecoms where cheating and arbitrage under the traditional market rules opened the potential that the market itself would "pass the regime by".).

The nature of aviation services traffic meant cheating was limited, implying that discriminatory bilateral arrangements were both possible and sustainable. Aviation traffic (i.e. passengers) is highly distance and routing sensitive, so the amount of traffic that can be re-routed to arbitrage pricing differences is relatively small. This is particularly true as slightly less than 50 percent of airline revenues come from time and route-sensitive business travelers, although as much as 80% of earnings are suspected to come from seats in the front of the plane.<sup>32</sup> So arbitrage opportunities are limited (although the presence of bucket-shops and charter markets demonstrates there are some opportunities).<sup>33</sup> These dynamics were accentuated by the fact that the costs of transporting aviation traffic increases with distance, which meant that the potential for arbitrage was limited to geographically close markets that did not require roundabout route patterns. At the same time, most carriers had their traffic concentrated on a few international routes. Their key customers might be satisfied by arrangements to ease booking on an allied airline for travel outside those routes. So, the potential of multilateral liberalization to unlock large numbers of global markets simultaneously was not that alluring. Ultimately, the difficulty of re-routing traffic, the increasing costs to distance, the concentration of traffic on a few routes, and the ease of monitoring made bilateral solutions possible in aviation services. Of course, these characteristics of aviation traffic also meant that it was possible to maintain discriminatory bilateral arrangements even in the face of liberalization in neighboring markets.<sup>34</sup>

The status quo also seemed more viable to major incumbents because of the slower pace of privatization and the less demanding capital requirements for government flag carriers (compared to their telecom counterparts). In short, compared to telecom industries in the same period, privatization had advanced much less in aviation markets, the financial demands of modernization were substantially less (although still not insignificant), and the ability of governments to continue to prop up national flag carriers did not threaten to undermine the competitiveness of other major segments of the national economy. Thus, despite the fact that the growing importance of global networks meant an increasing number of airlines had incentives to enter into the global alliance structures (and therefore accept more liberal marketplace rules and marketplace discipline), the potential for governments to intervene to protect their national flag carriers remained a much larger possibility in aviation. The infusion of state capital into weak airlines in southern Europe is only the most obvious example of this dynamic;<sup>35</sup> more

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<sup>32</sup> See *The New York Times*, "Airlines Coddle High Fliers at Expense of the Coach Class," April 1, 1998.

<sup>33</sup> The potential for arbitrage is greater in cargo markets given the decreased importance of routing and the lower increase in costs with distance increases.

<sup>34</sup> Our point is not that there was no potential for traffic diversion in aviation markets, just that these effects were much less significant than in telecommunications markets. Traffic diversion in geographically close markets for passengers who were less time or route-sensitive was important in aviation markets, especially if price differences were particularly large. For a discussion of these dynamics, see Kasper 1998. The potential for monitoring traffic and the limited potential for re-routing has also contributed to the ability for private governance solutions (international strategic alliances) to market access problems in aviation services markets.

<sup>35</sup> See *The Financial Times*, "Olympic Airlines: Athen's lets 'market' rule at state airline," May 6, 1998, and XXX on Air France trachnes.

complicated mechanisms revolve around using regulatory barriers to entry to artificially restrict supply and thereby keep prices high to keep inefficient national airlines viable.<sup>36</sup> An additional facet of the market that both governments and carriers did not understand at the time was how significant an impact the emergence of lower-cost, no-frills airlines offerings services from "secondary" airports could have on the market. Although by 2003 EasyJet, Berlin Air, and RyanAir define much of intra-EU aviation, the economic logic and subsequent success of these carriers did not shape decision-making about liberalization in a way that it might have. Ultimately, countries still had not concluded that the end of the state subsidy and protection game had come to an end because the financial burdens of the status quo had yet to overwhelm them. This meant that any selective liberalization deal in aviation services had to put in place a much more rigorous set of institutional arrangements to re-align incentives.<sup>37</sup>

Even if major incumbents thought the status quo would not shatter, there were significant cracks on some key international routes. The incumbents had much to fear if somehow governments shifted to favor more competition for one simple fact. There is ample elasticity of supply in the aircraft market. Large stocks of aircraft are available for lease on attractive terms, for example. If a market opened, a new entrant could build its capacity to serve the market very quickly. In addition, the state-owned incumbents had less flexible capital structures and inefficient staffing with rigid work rules and high pay scales.

In the end, if any major carrier's CEO harbored a hope for a radical new plan for global competition, the realities of state capacity snuffed it out for three reasons. First, both the U.S. and EU negotiating authorities have no legislative authority to liberalize foreign investment and ownership. In the U.S. this would have required an Act of Congress<sup>38</sup> and in the EU it would have required substantial increase in the delegation of authority to the EU from member states. But this was a second order weakness— a more fundamental issue was that negotiators had to count this as an obstacle to more rapid liberalization but there was never a liberalization pact with large enough benefits (either politically or economically) nearly at hand to test the limits of the possible on foreign ownership. Second, and more fundamental as a starting obstacle, neither the US nor the EU overcame the difficulties of making credible commitments given their weak jurisdiction over local facilities crucial to expanding competition.<sup>39</sup> Third, and compounding the second, tremendous legal uncertainty surrounds the role of the E.U. in

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<sup>36</sup> See, for example, *USA Today*, "Lower fares to Japan unlikely soon," April 24, 1998.

<sup>37</sup> We expect that the privatization of airlines and the removal of regulatory rules forcing these carriers to respond to marketplace incentives will thus remove some of the barriers to new governance arrangements in aviation service markets. See, for example, the timing of the nannoucement that France would sell off a major stake in Air France and the conclusion of U.S.-France negotiations. See *The Financial Times*, "Air France: State to sell off up to 47% of national carrier," February 24, 1998, and *The New York Times*, "U.S. and France Reach Air Accord," April 9, 1998.

<sup>38</sup> The Act setting up the Civil Aeronautics Board explicitly forbid foreign airlines from carrying intra-U.S. traffic, and placed an ownership cap of 25% of any foreign ownership. In the 1990s, KLM and Northwest tested the political will behind the legislation and ultimately failed in creating a complex yet legal solution to the problem. See XXX.

<sup>39</sup> As we shall see in the case of telecom, the importance of the sector-specific deal to the overall economy and the potential for a "big bang" liberalization via the WTO made commitment possible given the political stakes involved. No such logic held true in the case of aviation.

negotiating aviation agreements.<sup>40</sup> The lack of clear institutional competence for the E.U. for international aviation made most efforts at broader liberalization into a dead letter.

It is worth looking at the E.U. difficulties to see how institutional competence influences options to alter global markets. Most member states have resisted the expansion of E.U. authority in aviation markets. In particular, the European Commission has only recently obtained the authority to negotiate traffic rights, only after E.U. Transport Minister Neil Kinnock's launched a series of initiatives to gain E.U. control over all aspects of aviation markets, including external aviation negotiations. This represents the influence of a core EU coalition (led by France and Germany) to consolidate power over external commerce in the hands of Brussels. The coalition has pressed the Commission to use its pre-existing authority over competition policy to challenge external initiatives on aviation by member states. Thus, for example, the E.U. has sued member states over their Open Skies bilaterals with the U.S., E.U. competition authorities have launched investigations into the British-Airways-American Airlines and the Lufthansa-United alliances. The E.U. has also been very active in the debate over the landing slot allocation problems arising out of the BA-AA alliance.<sup>41</sup> Although the issue has recently been resolved in favor of E.U. competence (for the moment, at least) throughout the 1990s the debate over the locus of authority for external aviation agreements (and negotiations) significantly undermined efforts at E.U.-U.S. efforts to re-structure the entire trans-Atlantic market.

Even today, the limited experience with E.U. authority and lack of clear ex post authority creates uncertainty over the legal basis of aviation markets in E.U. member states--which in turn undermines contracting for the very simple reason that U.S. actors do not know what set of institutional rules will be used to make decisions on EMER after formal liberalization. Will E.U. competition authorities gain jurisdiction over the allocation of airport gate slots--and the public policies associated with airport construction to expand the number of slots--or will member states retain control? What competition restrictions will E.U. anti-trust authorities impose as a condition to approving alliances? Or will member states continue to have jurisdiction over these issues? How will slots be traded--on the open market, subject to extensive E.U. rules, or (as is currently the case) in the gray market? Given that the structure and process of decision-making directly effects governmental outcomes, these questions are not merely of academic interest--they shape the future costs and benefits of strategic and regulatory decisions made by firms today. So how slots are allocated or the anti-trust criteria which must be met in the future affects the nature and extent of the concessions that parties are willing to make in current negotiations.<sup>42</sup>

That is, the expected value of future aviation revenues derived under a prospective agreement will be directly affected by the perceived likelihood as to the availability of slots, airport facilities, the potential for alliances, etc., and their expense. Witness the extensive lobbying and energy that went into trying to assign specific economic value to slots in the mid-

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<sup>40</sup> Only in 2003 did uncertainties regarding EU competencies and jurisdictions in negotiating aviation services agreements resolve. Author interviews with EU officials, October 2003.

<sup>41</sup> Cites from newspapers at home.

<sup>42</sup> The economic value of any bargain will depend, in part, on the extent of real market access available under the new agreement, and this market access will depend on the decision-making process used to determine particular features of market access.

1990s as the American Airlines-British Airways alliance debated with the U.S. and U.K. regulatory authorities (and other interested airlines) over the proper number of slots to be given up to competitors and the value of these slots. And slots are only one piece of the overall regulatory and market landscape. Uncertainty over the legal jurisdiction of the E.U. or individual member nations over key aspects of aviation markets--and hence uncertainty over the institutional arrangements that would define the landscape of the market in these areas ex post--was of course particularly problematic given the network structure of aviation markets, where market access to key components of markets on a widespread geographic basis is essential for competitiveness. So legal and jurisdictions uncertainties raised commitment problems that have contributed to the failure of efforts to re-structure institutional governance structures in aviation markets.

In the end, there were no meaningful WTO commitments on market access for aviation in the 1990s, and most of the efforts to find a middle road (e.g., regional groups of states liberalizing with trans-oceanic markets, such as ASEAN states liberalizing as a group with the U.S.) failed. To be sure, significant changes in the marketplace—particularly the evolution of global mega-alliances composed of multiple airlines—have changed the industry landscape, but these have been individual firms’ responses to restrictive marketplace rules rather than responses to more competitive markets. Put differently, continued state intervention in the marketplace has driven the creation and evolution of these mega-alliances as private solutions to the economic incentives created by network economics.

#### **4.0 Telecommunications Services**

The post-1945 telecommunications regime squarely focused on the traditional telephone network and its services. Until the 1970s it was assumed that the international regime should support the concept of monopolistic supply of services and equipment in order to capture maximum economies of scale and scope. This also yielded economic rents that could be redistributed among countries and classes of customers. When technology opened the possibility of change the speed of change was very different across the major market centers, and the strategic position of the big market centers in global reform negotiations differed significantly.

The end of World War II and the rise of global phone traffic assumed the logical primacy of monopoly at the national level (usually under the government postal system). The International Telecommunications Union’s rules treated international services as a shared undertaking of two monopolies. Prices for provisioning the service between the two national phone companies were set by a transfer price called an accounting rate. As we explain later in more detail, these accounting rates could remain high because national monopolies were free to charge whatever they wished to consumers of the service, and everyone treated international communications services as luxury goods with high margins and low volumes. In short, the norm supported a global cartel with many strong supporters. For example, many smaller countries typically under-priced local phone services drastically and relied on monopoly profits from

international services to make up the difference, thus creating a perverse incentive for building out international phone connections while penalizing local investment.<sup>43</sup>

Technological innovations—especially the explosion in cheaper and higher capacity long-distance transmission technologies (e.g., satellites and modern undersea cables), the rise of the semiconductor that revolutionized the economics of equipment and the growth of networked computing (starting with large corporate networks) on a national and global scale—opened the way to new coalitions of large users of communications networks and specialized new equipment suppliers (including the computer industry) challenging traditional monopoly practices by the late 1970s. Would-be service providers acquired a strong interest in working the political process to unseat monopoly. MCI, for example, began as an alternative provider of internal long-distance services between corporate offices of individual firms in the Midwest. Computer companies created major computer service networks to allow companies to share the use of mainframe computers.

Unsurprisingly, the US led the way to market change because it was the most technologically intense economy, had firms operating most extensively on continental and global scaled networks, and had a political economic structure that was most resistant to centralized monopolies. (The U.S. electronics industry, for example, was comparatively free of extensive government guidance and had much greater freedom of entry and exit than other market centers.) Out of this process large users became politically active advocates for competition in all telecommunications services in order to improve pricing, reliability and technical innovation. This was a much bigger commitment of political effort than seen in aviation.

In contrast to the US, the EU and Japan tried far longer to control the amount of competition in their markets until the mid-1990s. While the formal approach differed (Japan introduced competition between phone companies shortly after the United States) they both tried to shield the bulk of the phone services market from vigorous competition. The two market centers reversed course only when most stakeholders in the equipment supplier and large user communities conceded in the early 1990s that this approach was causing a loss in both the information technology supply markets and in the business operations of large users.

For a variety of reasons the dominant incumbents in the industrial world expected more change in the telecom market even without new global rules than their counterparts in aviation. One reason was that technological innovation was requiring huge new capital expenditures precisely when governments were trying to cut budget deficits. Governments became reluctant to sink the required amounts of new capital into state owned firms. Indeed, these firms were attractive candidates for partial or full privatization in order to raise money and write down government debts. As a result, firms outside the U.S. began to brace for big changes.

A related reason was that the US departure from the monopoly model assured that there were going to be problems with maintaining monopoly elsewhere given the US' huge share of the world market (over 25%) (By 1986 the UK, Canada, Japan, Australia, and New

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<sup>43</sup> The ITU also organized the “global commons” of radio spectrum and communications satellites’ orbital slots around practices that assured national control while seeking to assure non-interference among national plans. This coordination function has remained even in an era of competition although the implementing mechanisms have slowly adopted to more diverse market participants and market uses. The global regime also included expectations and rules for equipment markets. This paper omits discussion of these factors. See Cowhey for a discussion.

Zealand had joined the US defection from monopoly.) However, if each national experiment with competition could have been hermetically sealed at the border, the old international regime might not have changed. But this was not practical. In addition to the demonstration effect of U.S. success with competition, the diversity of national market structures and extraordinarily high margins on international services encouraged cheating on the sanctioned system of international services and pricing. Put bluntly, international telecom traffic was increasingly “foot loose.” A call from Berlin to Mexico could be re-routed secretly through New York to take advantage of the fact that the U.S. carriers had lower rates with Mexico than did Germany. Electronic signals did not care, unlike airline passengers, if the routes were convoluted. Pricing arbitrage and traffic re-routing meant that the status quo was far less compelling as a guide to the future in telecoms than in aviation.

By the time of the Uruguay Round’s launch in 1984 it was clear that telecom and information service networks would become part of the new trade in services agenda because data networking in the 1980s was of great strategic significance to corporations of every advanced economy and an attractive growth market to suppliers. All major countries had crafted ways to exempt the data networking market in varying degrees from the general monopoly regime. Moreover, the total size of the market was less than five percent of the general communications services market globally. Nonetheless, the general wisdom held that significant market access commitments on data networking would be hard to obtain because of the general complexity of figuring out how to apply trade disciplines to services. The problems for negotiators included all of the ones discussed in regard to initial and extended market entry, but the smaller specialized nature of the market made them easier to finesse.<sup>44</sup>

As a result, the key industrial countries crafted an agreement on “value-added” data networking as part of the services agreements of the Uruguay Round. Then, in the closing moments of the Uruguay Round, the EU raised the stakes by taking up the US on its long-standing rhetoric in favor of a trade agreement on “basic” (read voice, fax, and the use of key network functions such as switching and transport) communications services and building and ownership of underlying network facilities.

As the Uruguay Round came to a conclusion, the EU had decided to introduce general EU competition in basic communications services on January 1, 1998. This spurred its interest in a matching WTO agreement. This change spurred the dominant European carriers to embrace WTO reform. If the EU was going to overhaul the European market they wanted access to the US market because US carriers operating in Europe would presumably be treated on a non-discriminatory basis under internal EU rules. (That is, they would be treated as European firms as long as they operated through their EU subsidiaries.)<sup>45</sup> Only a WTO agreement could offer easy access to European carriers to the US because, absent a WTO deal, the US policy was to treat European and Japanese carriers on the basis of bilateral

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<sup>44</sup> One solution was really remarkable. Rather than figure out how to assure meaningful market entry in the agreement, which was hard to do as long as the underlying network was controlled by a local monopolist, the negotiators effectively acknowledged the right of corporations to procure data networking competitively (including the use of self-supply of computer networks). Guaranteeing the right of the consumer substituted for guaranteeing the rights of competitive entrants fully.

<sup>45</sup> The EU was creating cross-market within the EU. So, it did not want national rules that could discriminate against other EU companies. Under long established trade rules US firms operating in Europe are treated as EU firms.

reciprocity arrangements. These investment restrictions would escape WTO jurisdiction in the absence of a WTO agreement on basic telecommunications services. (Using its administrative discretion under the controlling 1934 statute on communications, the FCC had created special competition rules to govern foreign carrier entry into the US. on a country by country basis. The US only allowed foreign corporate control of a US carrier if its market was competitive and open to equivalent U.S. investment.)<sup>46</sup>

The US Executive Branch also saw potential advantages from a WTO agreement. The Clinton administration's top leadership strongly pursued initiatives to show that it could champion an American vision of the information technology future supporting American firms and the "new economics" of the Internet. Sweeping global market change was part of this big picture story. (And the large user community gave special points for getting global coverage in a pact due to their business needs.) As a complementary political story a WTO agreement that really liberalized international services would predictably lower consumer prices for global calling radically. This seemed like a consumer benefit that would appeal to diverse parts of the Democratic party—recent immigrants who called to families in home countries, middle class "knowledge workers," and college students. But this was likely to be a political success that would emerge after market change. It would not win much support for initial approval of a pact. In the meantime, there were still skeptics about a WTO agreement to be overcome politically.

Knowing that there were political obstacles the Clinton administration still decided to try the WTO route for two key reasons. First, the global nature of advanced networking meant that it was far better to get simultaneous liberalization of all the key world markets quickly. Bilateral reciprocity might have gotten the coverage eventually, but it would have taken many more years. Second, bilateral liberalization required micro-management of the market through a virtual case by case examination of each foreign entrant's request for licensing. It was likely subject to the same blatant politicization found in many anti-dumping cases. But the Clinton administration envisioned the promise of the Internet economy as resting in part on the creation of powerful and very low cost global networking. Bilateral liberalization would not achieve rapid and dramatic changes in global networks even it got to some approximation in the long-run. So, the US opted for the WTO if it could solve political institutional and economic problems with the WTO negotiation.

Having decided to explore the WTO option the Administration soon ran into the institutional realities of the basic division of powers between Congress and the President. The Clinton administration wanted a WTO agreement on telecom service that required no new legislation because new legislation is much harder to achieve than tacit acceptance by Congress. But no new legislation also might mean that the US, unlike Europe or Japan, could not open its local phone services to competition and foreign entry. Moreover, even without needing new legislation the trade pact still required enough industry support to avoid Congress using its myriad forms of legislative power to kill a trade deal (e.g., by threatening to cut FCC budgets radically in retaliation).

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<sup>46</sup> In the 1995 G-7 Summit on the Global Information Society Vice President Gore delivered a blunt message to the G-7: The U.S. would liberalize its markets under a new bilateral reciprocity rule (called the Effective Competitive Opportunities formula at the FCC) unless the WTO found an acceptable formula for multilateral liberalization.

By pure luck, as Congressional dynamics played out, the 1996 Telecommunications Act enacted a quid pro quo that would allow the Bells to enter long distance markets if they opened up their local networks to access by competitors in local services. This 1996 Act had given little thought to trade issues, but U.S. trade negotiators could then commit the U.S. to allowing foreign firms to compete in local telecommunications services. This made its market access offer equal to that of the EU.

However, the 1996 Act had not changed the 1934 telecommunications legislation that limited foreign direct investment in U.S. carriers of basic telecommunications services to 20% of ownership unless the FCC granted an exemption permitted by very convoluted statutory language.<sup>47</sup> So, USTR had to craft a trade commitment to allow 100% foreign ownership of U.S. carriers in a special way that would permit the FCC to create a rule granting a “strong presumption” of the right to invest and control a U.S. carrier for any company from a WTO country. The EU team was much more concerned about how to judge the reliability of this commitment than any other item.<sup>48</sup> In addition to grilling the FCC on its plans the EU surveyed the political prospects for a WTO deal in Congress on the theory that the FCC was more likely to keep its word if Congress was not on a rampage.

Even if there was no need for legislative authorization Congress would listen carefully to the key stakeholders. While large users, equipment suppliers and the Bells would back a WTO agreement there were a variety of reasons why it was not their top priority in Congress. (Cowhey and Richards, 1999) Household consumers could yield political profit if a dramatic deal dropping international prices emerged, but were not so valuable in the politics of winning approval. The key group consisted of the international long distance carriers, led by AT&T, the dominant carrier.<sup>49</sup>

Understanding the vulnerabilities and interests of long distance carriers requires careful consideration of the economic realities of the telecommunications markets in the mid-1990s and the political realities of the reform packages for the major domestic markets. The 1996 Telecommunications Act in the U.S. may have made U.S. and EU offers equivalent on the markets covered by adding local services to the U.S. WTO offer on market access, but it was far from a perfect policy instrument for liberalizing competition. Much like the EU’s program on telecom liberalization it was particularly convoluted, and questionable, on its provisions for reliably opening competition in the local telephone market for residential and small and medium sized enterprise services.

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<sup>47</sup> The 1996 Telecommunications Act nearly had a foreign investment liberalization clause inserted by House Republicans. But this disappeared in light of resistance by some key Democrats.

<sup>48</sup> The EU, based on prior experience, believed that the US promise that compliance by its state regulatory commissions would not be a major problem, especially after the passage of the 1996 Telecommunications Act that mandated competition in local telephone services.

<sup>49</sup> The Bells’ indifference or support meant most Republicans had no major fight over a WTO deal so long as it did not interfere with ending restrictions on the Bells. The competitors to AT&T in international services (MCI, Sprint, and a host of smaller long distance operators, such as Worldcom, the subsequent buyer of MCI) traditionally operated under the umbrella of AT&T in the world market, following AT&T’s lead on negotiating settlement rates and the rest, and then discounting prices and offering service innovations to win market share. They officially supported AT&T in all of its reservations about the risks of a WTO agreement but some showed greatly flexibility on details.

The 1996 Act had at least two glaring problems. First, control over pricing of local phone services remained at the state level. Typically those prices were set unrealistically low and, as a result, competitive entry for a competitor building a new network under that pricing was very difficult.<sup>50</sup> Second, duplication of the local network required a massive effort. It would be very expensive, and very slow (due to the logistics of construction and local permitting process) even with strong rights for new entrants to interconnect with dominant operators' local networks. Together, these issues made it improbable that local services would be an attractive market for foreign entry.

The issues on local services had important implications for incumbents about foreign entry. With the exceptions of the local market for larger businesses and the wireless phone market (where spectrum licenses for the foreseeable future had already been allocated by auction), the incumbent Bell Operating Companies did not much fear foreign competitors under a WTO pact. The real market action produced by a WTO deal in the medium-term would be in domestic and international long distance markets and in the market for providing large corporate networks.

In the mid-1990s, based especially on the example of the U.S. market, would-be entrants around the industrial world were highly confident that they could launch competitive long distance and global corporate service networks under any regulatory system that matched the one then existing in the US. The economics and logistics of setting up a new long distance and corporate service network were then more attractive than local services, and the U.S. regulatory regime had succeeded in showing how to make this competition possible. In this light, a chief attraction of the WTO pact for a new entrant in a foreign country was that its provisions effectively created the right for the entrant to do commercially based "make or buy decisions" on creating their networks in new foreign markets. This simply means that the entrant could shop around to rent facilities on the best available terms from established local networks, form a joint venture for provision of services with an established operator in the market, or, if market conditions demanded it, invest in installing their own network facilities (an option that enhanced the entrant's bargaining position with incumbent networks).

The "sweet spot" in the entry market was long distance and corporate services. This meant that the incumbents mainly at risk from a WTO deal were in these market segments. In Europe the major incumbents were integrated across local and long distance, so local services buffered their total exposure to competition. But in the US the long distance and local carriers were (except for a few smaller cases) separated by law and regulation as of 1996. Even the Telecom Act's provisions did not promise a swift massive change in that situation.

As the largest operator in the U.S. domestic long distance market and the entire world market for international services AT&T had both commercial influence and a strong political interest in market rules. As the political leader of the long distance carriers it was skeptical about both bilateral liberalization and a WTO agreement because the transition to more international competitive entry posed special risks (that we discuss shortly) that no amount of access to foreign markets seemed to offset. AT&T knew that change was coming, but it was more profitable to slow it down.

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<sup>50</sup> We thank Howard Shelanski for emphasizing this point.

Its highest return on investment came from providing international telephone services under the traditional international regulations. This was a cash cow feeding the rest of the company's ambitious expansion plans. Thus, its interests in sweeping global change were limited and it saw many risks to its bottom line from higher settlement payments from WTO-enabled tactics like "one way bypass." Nonetheless, AT&T had failed to stop bilateral liberalization, however imperfect, with several big foreign markets and it knew "grey market" tactics like "call back" were going to proliferate. Moreover, large corporate networks were steadily being lost to newer market entrants because AT&T's marketing was constantly hamstrung by its efforts to protect a complicated set of existing rules and prices, unlike its opportunistic rivals. AT&T knew that an open world market might free it to use the advantages from owning the biggest global infrastructure of any carrier. So, AT&T acknowledged that global liberalization might hypothetically serve its interests. But, in the meantime, it urged Congress to be skeptical of a WTO deal.<sup>51</sup> The skepticism of long distance carriers meant that the Clinton administration had to produce some visible benefit for long distance carriers to offset their concerns over risks from a WTO deal—the US Government had to show large potential for new market access (that included EMERs and enforcement) and it had to address the large financial risks created by a transition to competition.

The political challenges in the US were made both harder and easier by the EU's institutional structure. In telecom negotiation the EU preferred a more limited scope to the deal than that dictated by U.S. domestic politics. The EU process of trade negotiation is as much about the negotiation among European states over the organization of the internal market (and the powers delegated to the EU) as it was about external commitments. Altering negotiating positions quickly and on ad hoc basis thus raises internal problems of re-negotiation and substantially raises the transaction costs of EU negotiations.<sup>52</sup> The bigger and more complicated was the WTO deal, the tougher was the process of internal market negotiation. It would have just as happily not complicated matters by tackling international services or the diplomatic effort to win major market access in the major developing countries. Only after it concluded that these were politically indispensable wins to the US did it expand its vision.

Second, all major players wanted assurances on both EMER and enforcement issues. All concluded that assurances required some form of WTO competition code to allow the new foreign entrant an effective right to operate against the former national monopolist. A competition policy was a major innovation for the WTO, accomplished (as we show shortly) by using a "backdoor" in the WTO decision process.

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<sup>51</sup> The senior Democrat on the Senate Commerce Committee (which had jurisdiction over the FCC) was Senator Ernst Hollings, a strong ally of AT&T on domestic policy and long a critic of multilateral trade policy. Hollings had made it known that he was highly suspicious of any WTO deal on basic telecommunications services.

<sup>52</sup> Put comparatively, the EU member states ratify a tentative trade pact each time they authorize the Commission to make a new negotiating offer in a WTO negotiation. The Congress ratifies the US trade offer only at the conclusion of a negotiation although, of course, the Executive Branch tries to anticipate Congressional preferences.

Reaching consensus and confidence in the competition code (assuming that it would be approved at the WTO) proved easier (not easy) than expected. The code essentially codified the new common principles of competition rules found in all countries embracing telecom competition. These rules largely adapted U.S. approaches to other markets and legal systems so they shared an underlying architecture. Rightly or wrongly, telecom regulators told trade negotiators that they had confidence that these competition rules would work if applied. Perhaps the biggest question was if the national market access offers were sufficient to allow the competition rules to work. After the 1996 Telecommunications Act the US had all of its legal authority clearly in place (except for the investment question noted above) and the FCC had drafted most of its initial implementing rules. The EU was still cleaning up its legal framework for competition (some key elements were not decided until 2000). But, here the internal vetting process of trade offers in the EU eventually bolstered EU credibility. The EU member states have to ratify a tentative trade pact each time they authorize the Commission to make a new WTO negotiating offer. So, a U.S. negotiator can be reasonably sure that “what you see is what you get” from the EU at least in regard to formal legal changes. Whatever the specific decisions of EU Commission and national regulatory authorities there was a clear political commitment at the European Council to accept these trade implications.

Finally, there was the problem that, from the U.S. perspective, the politically salient benefits of the agreement (especially lower costs for all classes of consumers) could only arise if trade and investment liberalization led to vigorous competition in pricing and supply of cross-border international services. Simply letting a French firm own Sprint would not end the anti-competitive effects of settlement rates and the U.S. proportionate return rules. The WTO pact had to allow freedom to price and create international networks similar to the dynamics of the U.S. domestic market for long distance. But, the U.S. had by far the largest global traffic flows. Any adjustment of the world market would alter those flows. It was here that the biggest problem for the end stage of the global negotiation arose. The peculiar economics of international phone and fax service meant that there was a big financial risk for U.S. carriers from the transition to global competition while the institutional rules of the WTO made it hard to craft a response to the risk.

The economics of the problem flowed from the fact that the traditional ITU rules stipulated that the international connection of national monopolies (e.g., a trans-Pacific phone call) should be provided as a “jointly provided service”—i.e., two national monopolies would invest jointly in providing the international cable to connect them and would provide the necessary originating and terminating services for an international call jointly (e.g., AT&T would originate the call in the US and the Korean phone monopoly would terminate it on a cooperative basis). The two monopolists would agree on a transfer price for the call (the accounting rate) and would “settle” up periodically based on a simple formula. If the accounting rate was fifty cents per minute, and one country originated 500 minutes more of calling per quarter than the other country, then the country owed \$250 per quarter in settlement payments. These “settlement payments” typically transferred funds from richer to poorer countries because the former called more frequently than the latter. As a monopolist that could directly put expenses on its guaranteed rate base under utility regulation AT&T did not much care if it over-paid for terminating its calls overseas.

All of this changed when the U.S. switched to competition. AT&T no longer had a monopoly that was guaranteed reimbursement of its settlement payment costs. As the U.S. market for long distance services became competitive all consumer prices, including international long distance (ILD), began steady declines and demand proved to be elastic. Consumer demand for ILD grew much more quickly in the U.S. than in the rest of the world. As a result, US outgoing traffic grew much faster than its incoming ILD traffic. This had major implications because U.S. carriers began to owe the rest of the world soaring settlement payments. This profited other countries at the expense of U.S. carriers. At the same time, foreign monopolists tried to play competitive U.S. carriers off against each other by demanding higher settlement rates from individual carriers in return for agreements to serve their markets. As a counter, the FCC intervened to create a de facto cartel of U.S. carriers for bargaining on settlement rates and traffic shares under FCC sanction.<sup>53</sup>

Unsurprisingly, given the economic incentives, experiments with the re-routing of international phone and data traffic in defiance of international rules grew. “Call back” exemplified the changes. In call back, a caller in India dialed a number in the U.S. and the receiving number in the U.S. noted the incoming number, did not “answer” the call, and then called back the number in India. U.S. rates were much lower, so the Indian consumer saved money on the call. But this also had two other effects. First, it denied the profits to the Indian monopolist that would have come from charging for an expensive originating call on its network. Second, it changed the balance of traffic flows between the U.S. and India—calls that should have been from India to the U.S. now showed up as being from the U.S. to India. Because accounting rates used to calculate settlement payments were way above cost, the settlement payments were largely pure rents at the expense of U.S. consumers and carriers. As experience and technology evolved, even more elaborate schemes grew to re-route international traffic.

The FCC rules to create a united bargaining front by U.S. carriers slowed ballooning settlement payments but they still grew rapidly. The average settlement rate paid by U.S. carriers in 1996 was 39 cents per minute; outside the OECD area and Mexico the average cost for U.S. carriers was well over 60 cents per minute in 1996.<sup>54</sup> In contrast, the FCC believed that the efficient cost of termination (the function paid for by a settlement rate) was no higher than five to ten cents. By 1997 the level of U.S. settlement payments was approaching \$700 million per year in the \$10 billion U.S. market for international phone calls. Besides driving up rates for U.S. consumers, the FCC calculated that roughly 70% of the total net settlement payments represented a subsidy paid by U.S. consumers to foreign carriers.<sup>55</sup>

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<sup>53</sup> First, it imposed uniform settlement rates for all US carriers. Second, it declared “proportionate return,” a rule saying that a carrier was entitled to the same percentage of incoming traffic from India, for example, as it sent from the US to India.

<sup>54</sup> These figures were calculated by the staff of the International Bureau of the FCC based on settlement rate data published by the Commission. Lande and Blake 1997.

<sup>55</sup> At the same time, the FCC bargaining rules effectively reduced competition among US carriers on ILD. After twelve years of competition in international services margins remained huge. Prices for consumers were even higher than those demanded by settlement rate effects. There were very large mark ups by carriers even in the most competitive national market, the United States. In August 1997 for example, the FCC estimated that the average price of an

Given these economics the U.S. carrier became greatly alarmed that a WTO agreement could make the situation far worse. Routing devices, such as “one way bypass” could take advantage of asymmetric WTO commitments on market access for international services (e.g., the US could open its market for competition on international phone services under the WTO deal while India did not, but Indian carriers could have free access to the U.S. market) to transfer large rents to foreign carriers.<sup>56</sup> Ballooning settlement payments due to such routing tricks would also create a perverse incentive system for developing countries to retain monopolies on international services.

The U.S. insisted that any global trade agreement had to provide some way for the U.S. to address these risks during a market transition. But, due to the structure of government power in the US, all the standard regulatory solutions required imposing ex ante conditions on the granting of U.S. licenses to foreign carriers.<sup>57</sup> Ex post penalties for actions such as “one way bypass” were too slow and uncertain under the U.S. system to reassure U.S. carriers, and ex ante conditions on entry were too muddled to be credible to other countries at the WTO.

The WTO’s institutional rules became vital for solving these three problems. The first two were matters of bargaining over market access among WTO members. That is, it was up to the negotiating countries to decide if the number of countries making offers to liberalize their markets under WTO rules (market access commitments) and the ways in which they liberalized

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international phone call from the United States was 88 cents per minute, compared to 13 cents for domestic long distance. These price differences existed despite negligible differences in the costs of transmission between the two types of calls. Even after the effects of settlement payments on costs for U.S. carriers were calculated, margins for U.S. carriers remained very high even though the U.S. rates for international service were generally by far the lowest in the world.

<sup>56</sup> Under “one way bypass” the U.S. would have a WTO commitment to permit market access for the provision of international services in and out of the U.S. by a variety of methods, including the use of the resale of international transport services (or “international simple resale” in regulatory parlance). Thus, the Indian international carrier, as a company of a WTO country, could lease a transmission circuit from U.S. companies to deliver India’s phone traffic to the U.S. This transport circuit would be exempt from the settlement rate system so that all of the Indian phone calls to the U.S. would result in no settlement payments to U.S. carriers. But, if India had not opened its international services markets through WTO commitments (which it did not), U.S. carriers would still have to deliver all American calls to India at inflated settlement rates. This would drive up the net settlement payment of the U.S. to India. Under WTO most favored nation rules the U.S. could not deny a market access benefit offered to the EU to an Indian carrier even if the Indian market was not open to competition in international services.

<sup>57</sup> Whenever the U.S. raised problems in regard to competition in international telephone services at the WTO talks, the EU responded that such measures might adversely affect the rights of European carriers entering the U.S. market. Rather than support ex ante safeguards built into any of the U.S.’ WTO agreements, the EU argued that actions by competition authorities could only be justified as a proportionate response to a clearly demonstrated problem. In short, the U.S. could act against the problem only after it had surfaced in the market. Whatever the merits of the EU’s view as a WTO argument, its position ignored the realities of the regulatory process in a country with divided powers (McCubbins, Noll, and Weingast 1987, McCubbins, Noll, and Weingast 1989). Regulators in EU member states can improvise solutions speedily once delegated the power to do so. This is a characteristic of parliamentary systems (Cowhey and McCubbins 1995). In the U.S., on the other hand, Congress has created limits on regulatory agencies use of power, meaning that the FCC must go through a lengthy rulemaking and enforcement procedure.

them was adequate. In fact, both the U.S. and EU had to convince the other that it could deliver foreign investment rights reliably, but they ultimately did so during detailed market access negotiations. Even the desire to have a new competition policy at the WTO could be solved through the market access negotiation. Instead of writing a new WTO competition code, the negotiating parties mutually agreed on the wording on an “additional market access commitment” that was a unilateral national agreement to abide by a “reference paper on regulatory principles.” Once listed as a national market access commitment, it was binding on the country. It required no general WTO agreement to the code by developing countries because it was purely a voluntary choice by the individual country.

As much as the WTO rules worked in favor of solving the first two problems, they worked against resolving the third. The key obstacle was the non-discrimination principle embedded in two key WTO rules—most favored nation and national treatment. (MFN meant that a market access made to one WTO country was automatically extended to all countries. National treatment meant that a country could not treat a foreign firm operating in its market differently from how it treated a domestic firm.) If the United States opened its international service markets at the WTO even monopoly foreign carriers could provide services into and out of the US. That teed up the one way bypass problem fully.

In the WTO negotiation the U.S. tried to find a way to reconcile non-discrimination with its worries on international services. In essence, it offered to take its existing rules on provision of international services in the U.S. by foreign carriers and make that into the basis of its WTO commitment on international services. By this logic, other fully liberalized countries (in terms of WTO market access commitments) could get a license to provide U.S. international services because they would meet the U.S. competition test. If the US failed to grant the license, then it could be brought to WTO dispute resolution. Countries in the WTO without liberalized services would be denied a U.S. license. The other OECD countries rejected this offer on the basis that it offered too much of an opportunity for political mischief in the US that could delay licenses inordinately. So, the U.S. had a dilemma—it could not agree to a deal covering international services under the WTO non-discrimination rules without creating a politically untenable situation because its institutions were too weak for rapid enforcement measures.

The solution was sidestepping the WTO altogether by a unilateral regulatory measure by the U.S. designed to drive down the level of accounting rates dramatically. If accounting rates were low then the damage that could be done by a variety of measures to manipulate traffic flows (e.g., one-way bypass) would be minimal. Just as crucially, lowering these accounting rates would chop payments from U.S. to foreign carriers and this would have two benefits. First, it would offer a side payment to U.S. international carriers (lowering prospective settlement payments) exposed to more competition as a result of WTO liberalization. Second, it would reduce the profitability of the traditional system of jointly provided services and thus provide a long-term incentive for developing countries to liberalize.

The FCC could accomplish this through an administrative measure that did not limit entry to the U.S. market and had no practical consequence for industrial countries. The measure was effectively a price cap (with a scheduled phase in) on what U.S. carriers could pay foreign countries on accounting rates. The price caps set maximum rates based on a detailed economic model and used the same model for all countries, so it was a non-discriminatory regulatory measure in WTO terms. And stepped up competition on routes among the EU,

Japan, and the U.S. would already have driven rates on those routes far below the price caps. So, the price caps had no costs for those countries and seemed like a credible administrative instrument in the US context.<sup>58</sup>

The resolution of the transitional problems for managing international traffic flows in and out of the U.S. permitted a successful conclusion of the WTO agreement. With vigorous lobbying by the EU the key industrializing countries agreed to make substantial offers on market access and a number of other developing countries made selective commitments. Thus, the coverage of the agreement, both on current and prospective markets, was strong. In February 1997 the WTO members approved the Agreement on Basic Telecommunications Services. This set a blueprint for liberalization (including foreign investment and EMERs) that was multilateral and anchored in the WTO system.<sup>59</sup>

## 4.0 Comparing the Two Markets

While comprehensive multilateral liberalization has proven possible in telecommunications in the 1990s, only ad hoc and bilateral arrangements were possible in aviation services. We argue that these different institutional arrangements stem from important differences in the political economy of the two markets, differences involving how market economics shaped political agendas and differences in the institutional capacity of states and global organizations.

### 4.1 The Political Implications of Differences in Market Economics

Scholars have long recognized that industrial structure shapes preferences on regulation and trade policy, and the ability of interests to exercise their preferences through collective action. As networked industries, telecommunications and aviation shared the common challenge of commitment and information problems that influenced all dynamics about global restructuring. They also had similar characteristics when using some of the conventional political economy models for predicting patterns of trade policy (e.g., Samuelson-Stopler methods as exemplified by Hiscox). So, we turn to finer tuned distinctions about market characteristics that mattered for government choices.

One difference was financial. There was less financial pressure to end state ownership and protection in aviation than in telecoms. In addition, telecoms was seen as more technologically dynamic and therefore less auspicious for successful use of state-owned enterprise models because of the need for massive new investment. These factors meant that government negotiators wanted more guarantees about the conduct of state owned enterprises in aviation than they did in telecoms.

A second distinction was the potential for a “big bang” approach in telecom versus aviation. In aviation, the inability for any individual bilateral deal in aviation to drive fundamental, global marketplace change meant the political will and potential gains from re-structuring could not be “grouped together” to create political will or economic efficiency gains large enough to

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<sup>58</sup> For an explanation of why the U.S. believed that it could enforce its unilateral caps on a negotiated accounting rate see Cowhey, 1998.

<sup>59</sup> See Sherman, 1999, for a detailed discussion of the specific outcomes of the Agreement.

drive change. It also limited potential political deal making. Any given bilateral deal thus had to stand on its' own political and economic merits – slots that went to United and other carriers Heathrow from any approval of the AA-BA deal were direct losses to AA and BA that could not be compensated by slots at other airports. These political and economic realities reflected both market and commitment differences from telecom (where as we have seen a big bang approach proved successful). In aviation cheating or re-routing was modest and involved mainly adjacent markets or airports. Business travelers did not like indirect routes on long flights and governments could monitor traffic effectively. Therefore, market participants (e.g., airline carriers) did not discount the value of maintaining the status quo as they did in telecom. These forces meant any given bilateral deal was largely independent of the next—so international pressure or support for a big bang approach was limited.

In telecoms cheating on traditional international traffic routing was growing rapidly (especially when serving the key corporate customers) and could be truly global (it was possible to re-route traffic very significantly without undue customer harm). This made the value of the status quo to incumbents more problematic. This also meant that the staple of piecemeal change in aviation, a limited bilateral liberalization agreement, posed risks because each bilateral route with more competition increased the avenues for moving traffic surreptitiously. So a global approach (at least covering all of the major market centers) was desirable in telecom whereas it was of limited benefit in aviation.<sup>60</sup>

At the same time, within telecoms there was noted variability among market centers in demands for broad global liberalization. Having the most liberalized global market at the time, and the most diversified set of major international routes, U.S. carriers were more sensitive to traffic hubbing than their European counterparts. Another variation was the starting point for more open global markets under the WTO. Europe would have major incumbents that were both local and long distance suppliers. The U.S. had bifurcated the two markets. The long distance and data network markets were far more subject to competitive entry so that U.S. long distance carriers had far greater proportionate risks than other major incumbents in the industrial world.

Finally, market characteristics influenced the political salience of reform for the two markets. Political salience was similar in the sense that all market reformers tried to emphasize how liberalization would drive down the costs of international services for the average household. But it varied in two respects. Large corporate users, the most easily organized constituency for lobbying during the stage of political approval of a trade pact, cared more about telecom networking issues as a source of competitive advantage. And telecoms (and the related information technology industry) became more easily identified with high profile political platforms to modernize economies because of its identification with the “internet economy” and the welfare of the computing and software industries. Aviation, in contrast, never achieved this status, despite extensive effort and lobbying by airlines to demonstrate the importance of aviation services to tourism and hospitality industries.<sup>61</sup>

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<sup>60</sup> It is important to note that a very limited set of point-to-point routes accounted for the vast majority of international aviation traffic).

<sup>61</sup> See US-Japan Connect analysis of potential economic impact of improved US-Japan air traffic flows. Data available from the author.

## 4.2 The role of state institutions and legal authority

The competence of state institutions also mattered for our outcomes. We begin with the extreme end points of the problem—the global and the local—and conclude by looking at the institutional competence of the U.S. Government and the E.U. Commission.

Global institutional arrangements matter because they create a reversion point for bargaining under the status quo. This creates predictability in ordinary affairs but also directs the paths for change. Both of the traditional international arrangements for these two markets favored cartel-style arrangements. While market advocates could reduce or weaken these restrictions on competition regime rules meant that efforts at global change had no place to go for easy progress unless reformers could change the venue to the WTO. This in itself was a political hurdle. As we saw in telecoms, it also meant inventing a number of new “tricks” for the WTO on scheduling market access and competition policy. But the WTO carries its own constitutional design and these rules nearly sunk the WTO deal on telecoms when it came to international services.

At the opposite end of the governance spectrum, the ability to control sub-national jurisdictions, and its salience to credible post-entry market access rights, was a crucial distinction between the markets. It was a significant problem in aviation. The biggest black hole was the inability of almost all governments to commit to the expansion of airport landing slots (particularly at prime business travel times) that would be required to enable the greatly enlarged numbers of foreign flights that would be created by greater market access. In practice this meant that a fixed supply of infrastructure had to be re-distributed from incumbents to new market entrants, hardly a politically desirable or credible long-term solution to the problem. This was exacerbated by the fact that major airports were often dominated by the former state-owned carriers, which promised to make market access difficult.<sup>62</sup> And the very visible and ultimately unsuccessful efforts to re-allocate slots at Heathrow or build an additional runway at Narita demonstrated not only the value of incumbency and the difficulty in re-allocating a fixed set of assets but also the real commitment challenges faced by all governments. In addition, any effort to allocate landing slots in a way that would facilitate market access—auctions, for example—ran afoul of incumbent airlines that claimed (correctly) that any new mechanism for allocating slots would severely disrupt their operations and have severely negative economic consequences. This was particularly sticky for the global marketplace as a limited set of former national champions dominated city-center airports accounted for a large percentage of total international traffic flows. Any market liberalization thus required successful negotiations to parcel out small numbers of existing slots away from powerful incumbents to new, generally foreign owned and operated competitors. Even in centralized parliamentary systems, airport

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<sup>62</sup> Access to U.S. airports was governed by somewhat more transparent and clear regulatory rules which promised to be easier for foreign airlines to negotiate than U.S. airline efforts abroad. Access to U.S. airports and landing slots are governed by local authorities (traditionally the city government or municipal government that covers the jurisdiction with which the airport resides). However, one or two large U.S. carriers usually dominated each major international airport and were major co-investors with the airport. So, foreign entrants still had much to worry about.

construction was a political powder keg where local communities had earned quasi-veto rights.<sup>63</sup>

In contrast, telecommunications posed hard but seemingly tractable problems for the credible delivery of market entry, especially interconnection rights. Anyone who has followed battles over access of new entrants to the switching cages of local telephone exchanges or rapid access to customer support systems of incumbents knows that entry is never smooth. But there was a crucial difference with aviation. In telecoms the U.S. and E.U. authorities believed that they could deliver these rights to their own competitive entrants, and so they simply were assuring the same to foreign firms. And some dominant facets of wired network entry in the 1990s, such as creating competitive backbone fiber networks, had ample successful precedents in several countries. Moreover, mobile wireless networking had grown up in monopoly environments as the only form of public network competition. So, there already seemed to be “proof of principle” of entry prospects based on past experience.<sup>64</sup>

It was at the central level of institutional competence that there was significant variation between the market centers that had major implications for global change. For example, the negotiating power of the E.U. was much less clear-cut in aviation than telecom, with individual E.U. states maintaining control over the majority of marketplace rules even as the E.U. struggled to assert authority by defining the issues as being ones of trade (where E.U. institutional competence was well established). A common problem for the two industries was the need for governments to obtain authority to liberalize foreign investment decisions. Both markets failed in regard to aviation liberalization and foreign investment. (For example, in the U.S. any agreement enabling foreign-owned carriers to carry passengers in the U.S. (from New York to Los Angeles, for example), would have required Congressional action to change U.S. statutes forbidding exactly this.<sup>65</sup>) While it ultimately limited the ability of foreign firms to buy many of its established former monopolists the E.U. had to liberalize all other foreign investment in order to unify its own market. Thus, it was highly credible on investment issues because such internal market liberalizations are very hard to reverse. In contrast, the U.S. had to rely on a very innovative interpretation of its existing law by the FCC, a cause of concern to all trading partners, because the decision could be reversed by the Commission in the future (although the U.S. obligations at the WTO would not disappear).

A third dimension of competence was the ability to manage side-payments among domestic market players in a way that would not impinge on international obligations. As we saw, this was crucial to WTO telecom negotiations in the U.S.

## Conclusion

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<sup>63</sup> The issue was not legal competence of the central government. It was politics. The Commerce Clause of the U.S. Constitution gave the U.S. government authority to intervene at the local level in regard to airport conduct if it impeded interstate commerce. The EU's authority was far more limited unless it could redefine aviation services as a trade issue. This would not resolve the political issues.

<sup>64</sup> The satellite services industry did undergo a bout of skepticism in 1996 but later concluded that nothing about a WTO agreement made it worse off. Its problems focused not on interconnection but on spectrum allocation, equipment reliability certification, and initial licensing issues.

<sup>65</sup> The right to fly internal passengers is known as cabotage in the industry.

Two networked industries went through significant transition in the 1980s and 1990s. Major industrial economies touted the prospects of making the services or knowledge economies much more efficient by allowing global integration and competition in the industries. But they went in very different directions.

One emerged with piecemeal liberalization internationally based on bilateral reciprocity bargains. Private governance arrangements in the form of international aviation alliances emerged as partial substitutes for greater freedom of entry and pricing.

The telecommunications industry began with bilateral liberalization. But it ended up with a rather comprehensive set of market access agreement involving major innovations concerning foreign direct investment and competition codes. There is considerable economic noise in any effort at evaluating the effects of the trade pact because of the market bubble in communications. Nonetheless, the market for traditional international services is markedly more competitive and efficiency. (Ennis, 2002)

International rearrangements of property rights have both efficiency and equity implications. And it is important to note that the telecom agreements did so also. The most notable was the collateral effect of the price caps imposed by the FCC on accounting rates. They also transferred rents away from carriers in developing countries to US consumers (and carriers) much more rapidly than a WTO deal alone might have done otherwise. Institutions and politics in the United States had sharply shortened the transformation of the international market and redistributed rent away from foreign carriers in developing countries. While the efficiency gains for these countries from opening their markets and correcting inefficient pricing were, in our opinion, more than offsetting over time, the WTO Telecoms accord shows how changes in property rights have both efficiency and distributional consequences.